I. Amendments to the Claims

1. (Previously Presented) A heat sink comprising a unitary body having first and second portions, the first portion being generally non-porous and the second portion being generally porous;

whereby the first portion transfers and spreads heat within the heat sink and the second portion substantially dissipates the heat from the heat sink; wherein the second portion has a melting temperature that is lower than a melting temperature of the first portion.

2. (Original) The heat sink according to claim 1, wherein the first and second portions are made of a metal material.

3. (Original) The heat sink according to claim 1, wherein the first and second portions include a copper alloy.

4. (Original) The heat sink according to claim 1, wherein the first portion is generally solid.

5. (Cancelled)

6. (Previously Presented) A system for dissipating heat comprising:

a semiconductor die; and

a unitary heat sink attached to the semiconductor die, the heat sink including a non-porous portion having a first melting temperature and a porous portion having a second melting temperature, the second melting temperature being less than the first melting temperature.

7. (Original) The system according to claim 6, wherein the semiconductor die is soldered to the non-porous portion of the unitary heat sink.

8. (Original) The system according to claim 6, wherein the heat sink is made of a copper alloy.

9. (Cancelled)

10. (Original) The system according to claim 6, wherein a gas is forced through the porous portion of the heat sink.

11. (Original) The system according to claim 6, wherein a liquid is forced through the porous portion of the heat sink.

12. (Original) The system according to claim 11, wherein the fluid is a dielectric fluid.

13. (Original) A method for manufacturing a heat sink comprising the steps of:

forming a unitary body having a first portion therein and a second portion;

melting the second portion of the body; and

creating porosity in the second portion of the body.

14. (Original) The method according to claim 13, wherein the first portion has a higher melting temperature than the second portion.

15. (Previously Presented) The method according to claim 13, wherein the step of creating porosity forces a gas through the second portion.

16. (Original) The method according to claim 13, wherein the step of creating porosity includes the step of integrating a material into the second portion.

17. (Original) The method according to claim 16, further comprising the step of solidifying the second portion with the material integrated therein.

18. (Original) The method according to claim 17, further comprising the step of removing the material from the second portion.

19. (Original) The method according to claim 18, wherein the material is removed by a chemical interaction.

20. (Previously Presented) The method according to claim 13, wherein the first and second portions comprise a copper alloy.

21. (Previously Presented) The method according to claim 20, wherein the alloy content of the first and second portions are different.